

4094

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Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
State: <i>Delaware</i>
11-5613
DESCRIPTIVE REPORT.
<i>Hyd.</i> Sheet No. 4094
LOCALITY:
<i>Entrance to Delaware Bay</i>
<i>1870</i>
CHIEF OF PARTY:
<i>H. A. Suran</i>

Limits of Sheet.

The extreme limits of the work on this projection are:

Latitude-- 38 05 to 38 50,

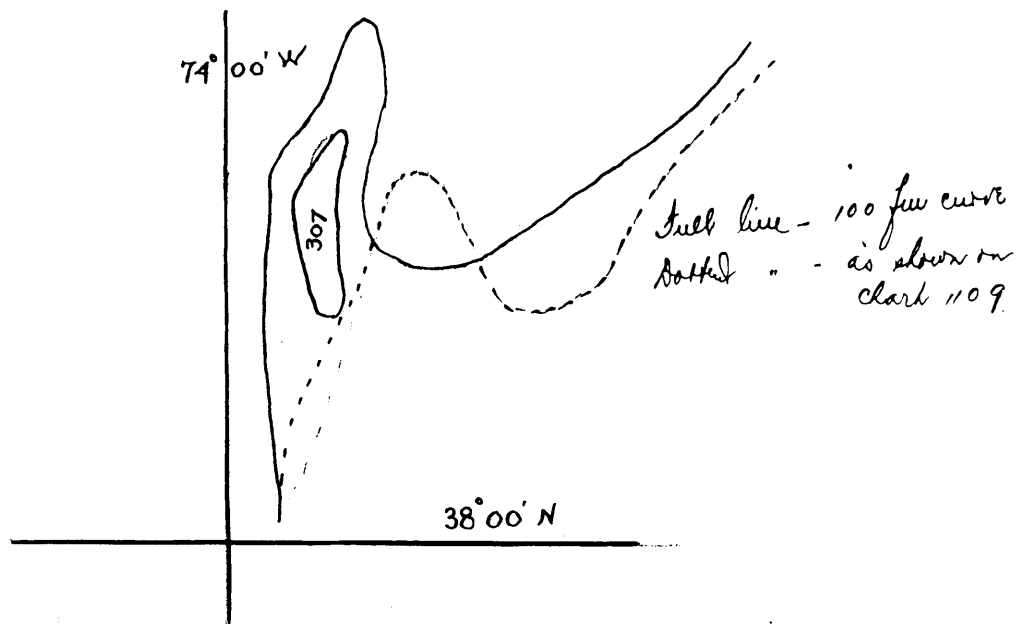
Longitude- 73 35 to 74 50.

The hydrography extends eastward from the limits of the work on the inshore sheet of this same locality to the 100 fathom curve. The lines are run in a general ESE direction.

Outlying dangers, etc.

There are no dangers in this area.

Along the meridian of 73 55 and extending from Latitude 38 05 to 38 15 there is a much more pronounced ravine than is shown on Chart. No. 1109 at present. Below is given a drawing showing the change in the 100 fathom curve in that vicinity as developed by the present survey.



Method of survey.

Up to 25 fathoms the soundings were taken with lead line, using the trolley gear. Beyond 25 fathoms all the soundings are up and down casts using the electric sounding machine and a registering sheave.

G. & J. days were run for a test of the Coast Survey sounding tubes. The tubes gave very good results and advantage was taken of being at the outer limits of the work to run a line to the northward of the ravine mentioned previously, using the tubes instead of up and down casts. This line is from 17J to 18J

Reduction of soundings.

The tidal information for the reduction of the soundings was obtained from the office. Copies of the records of the automatic gage maintained at Delaware Breakwater were furnished for this. The time for the tide in the working area was considered one-half hour earlier than at the Breakwater. Only the soundings taken with lead line (up to 25 fathoms) have been reduced for tide.

Plotting.

In plotting the lines the various corrections have been applied in the following order:

Leeway,
Transfer,
Currents,
Closure.

Distances.

The distances as recorded on the abstracts accompanying the sheet are in statute miles. This was merely for convenience as the log was calibrated for statute instead of nautical miles.

Handwritten signature

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. _____

APPROACHES TO DELAWARE BAY

Scale 120,000.

H. A. Seran, Chief of Party.

Statistics sheet No. _____

Date	Letter	Vol.	Pos.	Sdgs.	Statute Miles	Vessel
July 21						
July 22	A	1	33	519	124.2	Bache.
July 26						
July 27	B		16	426	50.0	"
July 27	C		3	164	15.9	"
" "	C	2	10	104	30.4	"
Aug. 2						
Aug. 3	D		41	532	172.7	"
Aug. 4						
Aug. 17						
Aug. 18	E	3	28	257	149.8	"
Aug. 18						
Aug. 19	F		32	280	151.8	"
Aug. 30						
Aug. 31	G		24	41	152.0	"
Sept. 15						
Sept. 16	J		26	56	133.0	"
Sept. 15	H	4	13	157	44.0	"
Sept. 20						
Sept. 21	K		15	158	47.0	"
Sept. 22	L		10	162	40.0	"
Total			251	2856	1130.8	

To accompany off-shore sheet, Approaches to Delaware Bay.
 Scale 120,000 1920.
 H. A. Seran, Chief of Party.

DIRECTOR
ADDRESS THE
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 41/VFB

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON May 18, 1921.

Division of Hydrography and Topography:

Division of Charts:

Tidal reductions are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 4094

Approaches to Delaware Bay
H. A. Seran in 1920

Plane of reference is
Mean low water, reading

*2.0 ft. on tide staff at Breakwater Harbor, Delaware

* Allowance made for difference in tide at place of soundings.

Condition of records: Satisfactory.



Chief, Division of Tides and Currents.

Verification Report of Hydro 4094.

The adjusted ship's lines and position of the dead reckoning work on this sheet were accepted as plotted on by field party. Only the proportional distances between any two log readings were actually checked to finally get a check on the spacing of soundings. The spacings did not check though though none were greatly off.

The whole area was well covered by a series of parallel lines preserving a good ~~for~~ spacing between the lines throughout. No unusual developments were found.

A more definite indication could be given in the notes at just which sounding the log reading was taken. This was done in some cases by skipping a line in the "sounding" column ~~in some cases~~ but it would well if some such system were preserved throughout.

The two light vessels on this sheet and the one buoy west of the Fenwick Id. shore light vessel located by cuts differ in position greatly from that shown on the chart. Capt. Seaman verified the positions of these vessels and buoys as correct as none of the protecting dependent on them will be in any affected by any future change of these aids to navigation.

One dead reckoning line, "A" day (blue) of Capt. Seaman's work of the previous season was transferred from

boat sheet & smooth sheet. The line had already been
adjusted on boat sheet.

The fifty, one hundred and two hundred fathom
cable are shown as far as possible.

Respectfully submitted,
Elvis Darr,
Proprietor.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS.

REPORT ON HYDROGRAPHIC SHEET No. 4094.

Surveyed in 1919 and 1920.

Chiefs of Parties: R. F. Luce and H. A. Seran.

Surveyed by party of
Str. BACHE.

Protracted by H. A. Seran.

Plotted by H. A. Seran.

Verified and inked by A. Baer.

1. The records as well as the plan and character of development conform to the requirements of the General Instructions.
2. The development satisfies the specific instructions.
3. The sounding line crossings are adequate.
4. The data were sufficient to completely draw the depth curves.
5. The field plotting was completed to the extent prescribed in General Instructions and the office draftsman did not have to do any of it over.
6. The junction with the inshore hydrography is satisfactory and no further surveying is required in the area covered by the sheet.
7. The plotting of the soundings would be facilitated if the records would show at just which sounding the log reading was taken. This can be done by skipping a line in the "sounding" column.
8. The locations of 5 fathom Bank Lt. Vessel, McGrie Shoal Buoy, Fenwick Island Shoal Light Vessel and Fenwick Island Shoal Whistling Buoy differ considerably from their charted positions. The Bureau of Lighthouses has been notified of the apparent errors in the charted positions.
9. The character and scope of the surveying and the field drafting are excellent.
10. Reviewed by E. P. Ellis, July, 1921.
11. Two copies of this report to be sent to the Division of Hydrography and Topography.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4094

State Delaware.
General locality Atlantic Coast of Delaware.
Locality Entrance Approaches to Delaware Bay.
Chief of party H. A. Seran.
Surveyed by Party of Ship BACHE. (Field Party).
Date of survey June to October 1920.
Scale 1:120,000.
Soundings in Fathoms.
Plane of reference 2.0 ft on Delaware Breakwater staff.
Protracted by H.A.S. Soundings in pencil by H.A.S.
Inked by Verified by

Records accompanying sheet (check those forwarded):

✓ Des. report, ✓ records, duplicate Tide books, Marigrams, ✓ Boat sheets,
4 Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet

11 Abstracts of Dead Reckoning Lines. acc. no. 85797
2 Vols. Current Observations. — Mr. Manner Tide
1 Vol. Hydrographic cuts. acc. no. 85796

Remarks: